

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
20 January 2005 (20.01.2005)

PCT

(10) International Publication Number
WO 2005/006563 A1

(51) International Patent Classification⁷: **H03M 13/29**

(21) International Application Number:
PCT/EP2004/007158

(22) International Filing Date: 1 July 2004 (01.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03291705.6 9 July 2003 (09.07.2003) EP

(71) Applicant (for all designated States except US):
DEUTSCHE THOMSON-BRANDT GMBH [DE/DE];
Hermann-Schwer-Str. 3, 78048 Villingen-Schwenningen
(DE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MÜLLER, Stefan**
[DE/DE]; Chabeuilstr. 1, 78087 Mönchweiler (DE).

KABUTZ, Marten [ZA/DE]; Tirolerstr. 23, 78052 Villingen-Schwenningen (DE). **LEBEGUE, Xavier** [FR/FR]; 15 rue Montagne de l'Esperou, F-75015 Paris (FR).

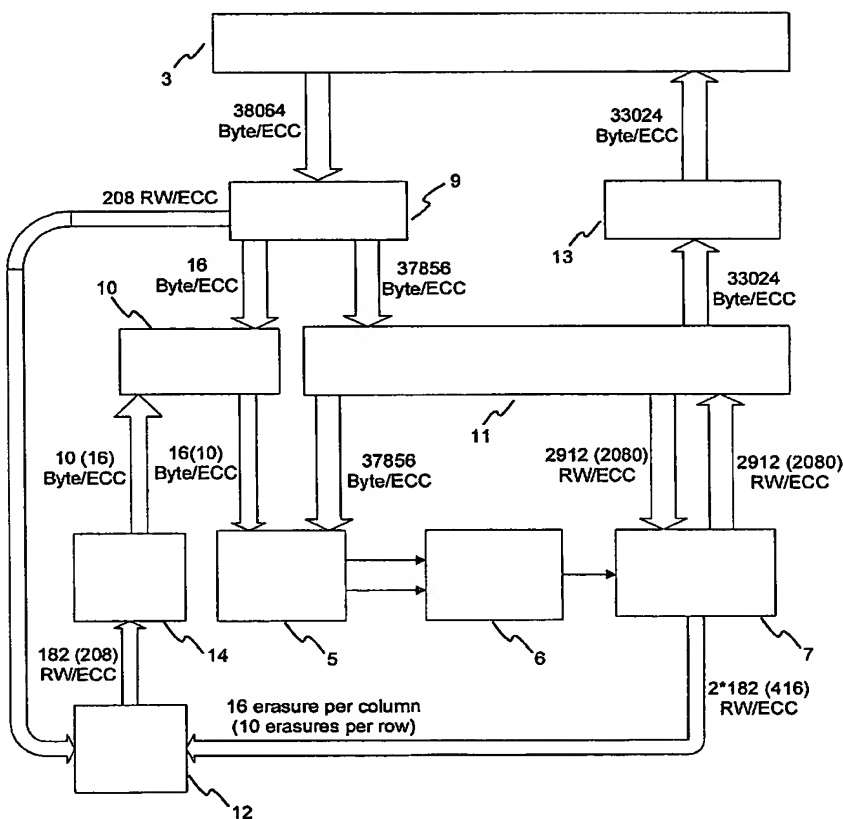
(74) Agent: **THIES, Stephan**; Deutsche Thomson-Brandt GmbH, European Patent Operations, Karl-Wiechert-Allee 74, 30625 Hannover (DE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: **ERROR CORRECTION METHOD FOR REED-SOLOMON PRODUCT CODE**



(57) Abstract: The present invention relates to soft-decision decoding of Reed-Solomon product codes. According to the invention, a method for error correction of an encoded data stream comprises the steps of: - saving the demodulated data stream in an input buffer 2; - performing a first correction process on-the-fly in the input buffer 2; - transferring the data to an external SDRAM 3 after correction; - copying a data frame from the external SDRAM 3 to an embedded SRAM 11; - starting a multipass correction in the embedded SRAM 11; and - copying the corrected data frame back from the embedded SRAM 11 to the external SDRAM 3.

WO 2005/006563 A1



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.